

Claims 5, 9 and 26 were found to be indefinite under 35 USC §112, second paragraph because the term “average molecular weight” could be interpreted to mean number average or weight average. The claims have been amended to specify “number average.” Support for the amendment may be found at page 5, line 5 of the Specification.

Claims 1, 4, 7, 13, 16, 20, 24-25, 27 and 29 were rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner found that the claims “are indefinite because claims merely setting forth physical characteristics desired in an article and not setting forth specific compositions, which would meet such characteristics are invalid as vague and indefinite because they cover any conceivable combination of ingredients, either presently existing or which might be discovered in the future.”

For the following reasons, Applicants respectfully disagree with the Examiner’s conclusions. The subject matter that Applicants regard as their invention is the use of a particle attracting polymer coating applied to a fabric substrate to enhance the performance of the fabric. The fabric finds special utility as a wiper in cleanrooms, where strict standards apply to the contaminants that may be generated by the fabric itself. Surprisingly, the polymer coating dramatically increases the ability of the fabric to attract contaminant particles, without adversely impacting the level of contaminants generated by the fabric.

Applicants have made a definite claim to the above-described subject matter. The Examiner has not argued that the “particle attraction coefficient” nor the standard of “particles greater than 0.5 microns” are unclear to a hypothetical person possessing the ordinary level of skill in the pertinent art. MPEP §2171.

The Examiner has suggested that the term “particle attracting polymer”, which is defined in terms of the performance of the textile fabric is indefinite because “it purports to cover everything which will perform the desired function regardless of its composition.” Applicants refer to MPEP §2173.05(g) and note that there is no prohibition against defining some part of the invention in functional terms. Functional language is not improper in the present case because a person of ordinary skill can readily determine whether application of a given polymer coating results in a fabric having the claimed particle attraction coefficient.

The Examiner appears to be arguing that the claim is overly broad. But, the “[b]readth of a claim is not to be equated with indefiniteness.” MPEP §2173.04, citing *In re Miller*, 169 USPQ 597 (CCPA 1971). Anticipating grounds for refusal under 35 USC §112, first paragraph, Applicants respectfully submit that the invention is enabled commensurate in scope with the claims.

One need not disclose every compound that will work in an invention. In *In re Goffe*, 191 USPQ 429 (CCPA), the court stated:

“[T]o provide effective incentives, claims must adequately protect inventors. To demand that the first to disclose shall limit his claims to what he has found will work or to materials which meet the guidelines specified for “preferred” materials in a process such as the one herein involved would not serve the constitutional purpose of promoting progress in the useful arts.”

See MPEP §2164.08.

Ex parte Slob, 157 USPQ 172 (POBA 1967), was relied upon by the Examiner in support of the premise that a claim is indefinite if it encompasses compounds not specifically disclosed or which might be discovered in the future. Applicants submit that *Ex parte Slob* does not represent the current status of the law. Attention is directed to *United States v. Teletronics, Inc.*, 8 USPQ 2d

1217 (CAFC 1988), *cert. denied*, 490 U.S. 1046 (1989), involving a bone growth stimulator. The patent disclosed how to practice the invention if the electrodes were comprised of one metal/current combination, namely stainless steel and a current in the range of 5 to 20 microamperes. The court found that since one embodiment and the general manner of ascertaining current range were disclosed, other permutations of the invention could be practiced without undue experimentation.

MPEP §2164 *et. seq.*

Applicants are not merely claiming a desired result. The claims include the limitation of a particle attracting polymer coating, incorporated in the article to increase particulate contaminant pick-up, without generating contaminants. Applicants submit that in the field of low contaminant textile products, the incorporation of the particle attracting polymer coating is a novel and unobvious structural limitation.

Rejections – 35 USC §102/§103

Claims 1-5, 7-11, 13-20 and 24-30 were rejected under 35 USC §102(e) as anticipated by, or, in the alternative, under 35 USC §103(a) as obvious over Yahiaoui et al., U.S. Patent No. 5,814,567.

The Examiner finds that the coated textile fabric of Yahiaoui et al. inherently meets the particle attraction coefficient, particle count of particles greater than 0.5 microns and extrinsic absorbency claimed by the Applicants. Yahiaoui et al. also disclose woven polyester fabric. The polysaccharide polymer coating disclosed by Yahiaoui et al. meet the claimed limitations of pendant groups and average molecular weight.

Claim 1 has been amended to limit the type of fabrics to “woven, knitted, wet laid, dry laid and needlepunched fabrics.” Support for the amendment may be found at Specification page 5, lines

11-14. The amendment excludes spunbond fabrics, which can be stiff, lacking in absorbency and are typically calandered paper-thin.

Claims 8 and 27 have been amended to limit the particle count of particles greater than 0.5 microns to 30 million particles or less.

Claims 10 and 26 have been amended to incorporate a fabric weight limitation.

Claims 13, 20, and 24 have been amended to limit the particle count of particles greater than 5 microns to 300,000 particles per square meter or less.

Claim 14 has been amended to limit the textile fabric to woven or knitted fabrics.

Claim 17 has been amended to incorporate a limitation on the yarn denier. Support for the amendment may be found at Specification page 5, lines 17-18.

Referring to the Affidavit of Dr. Morin, attached hereto as Exhibit A, two types of polypropylene substrates were each tested with three types of modified polysaccharide, hydrophilic polymers. Fabric A, the needlepunched fabric, did not meet the broadest claimed particle count limitations (i.e. particles greater than 0.5 microns – 75 million particles or less; particles greater than 5 microns – 1 million particles or less).

Fabric B, the spunbond fabric, did not meet the narrower particle count limitations (i.e. particles greater than 0.5 microns – 30 million particles or less; particles greater than 5 microns – 300,000 particles or less). The lower particle count arising from the spunbond product is believed to be due to the fabric having been calandered to form a paper-thin sheet. Calandering seals particulate contaminants in the fabric matrix and the contaminants are not readily released. Calandering has detrimental effects on the performance of the fabric as a wiping cloth, however. In particular, calandering reduces absorbency, stiffens the fabric, and seals fibers in the fabric matrix, thereby limiting the surface area for attraction and adsorption of contaminants.

It would not have been obvious to the skilled person to modify Yahiaoui et al. to meet the particle count limitations of the claimed invention. Yahiaoui et al. is directed to products for use in disposable absorbent articles, such as diapers. There is no suggestion or motivation to launder the fabrics of Yahiaoui et al. in a cleanroom laundry, as is generally done to remove particulate contaminants. (See Specification, page 11, lines 3-13.)

Rejections – 35 USC §103

Claims 21-23 were rejected under 35 USC §103(a) as being unpatentable over Yahiaoui et al. The Examiner finds that:

“It would have been obvious to a person of ordinary skill in the art to utilize a surfactant in the range of .5 ppm to .1% by weight. Such a weight range would have been obvious based on the reasoned expectation of rendering a fabric wettable without significantly lowering the surface tension of an aqueous medium to which the coated substrate may be exposed.”

The Applicants respectfully disagree with the Examiner’s reasoning and conclusions. Yahiaoui et al. teaches away from using a surfactant treatment on the fabric. In fact, Claim 1 of Yahiaoui et al. includes the limitation “the coating of hydrophilic polymeric material will not significantly suppress the surface tension of an aqueous medium with which the coated porous substrate may come in contact” (‘567, col. 19, line 38 – col. 20, line 2).

The mechanism taught by Yahiaoui et al. for rendering the fabric wettable, without lowering the surface tension of the aqueous medium, is to coat the fabric with a hydrophilic polymer not a surfactant. The Examiner has taken the language of Yahiaoui et al. out of context.

Claims 6, 12 and 31 were rejected under 35 USC §103(a) as being unpatentable over Yahiaoui et al., in view of admitted prior art. The admitted prior art discloses packaging wipers, which have been saturated in solvent, in a sealed container. According to the Examiner, it would have been obvious to package the coated fabrics of Yahiaoui et al. in such pre-saturated container.

The Examiner has failed to provide any motivation or suggestion for combining the cited references. In fact, the utility of the disposable absorbent articles of Yahiaoui et al. (diapers, feminine care products, etc.) would be lost if the products were presaturated.

Furthermore, as Applicants have noted above, all of the dependent claims are based on independent claims that contain limitations on the particle count of contaminants. The fabrics of Yahiaoui et al. do not meet such particle count limitations.

In conclusion, Applicants submit that the fabrics of Yahiaoui et al. are not directed to use in cleanrooms and cannot meet the particle count limitations. There is no motivation or suggestion to treat the fabrics of Yahiaoui et al. to remove the contaminants, such as laundering the fabrics in a cleanroom laundry. Calandered spunbond fabrics show a lower particle count of contaminants relative to fabrics with an open construction. The Applicants have limited the claims that include spunbond fabrics to those fabrics having lower particle counts (e.g. greater than 0.5 micron particles of 30 million particles or less).

Applicants submit that the case is in condition for allowance and respectfully request the same.

Respectfully requested,

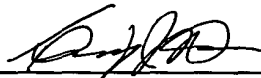
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to The Commissioner of Patents and Trademarks, Washington, DC 20231, on October 24, 2000, along with the Affidavit of Dr. Brian G. Morin, and a postcard receipt.



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